

DESCRIPTION OF TWO PARASITIC NEMATODES FROM THE TEXAS PECCARY

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In November, 1931, Dr. J. H. Cooper, a veterinary inspector of the Bureau of Animal Industry, engaged in tick-eradication work in Texas, forwarded to the bureau in Washington the viscera of three white-collared peccaries, which had been killed in the vicinity of Raymondville, Tex. This material was secured at the request of the senior author, who has been interested in the parasitic fauna of peccaries, especially in its relation to that of domestic swine. The examination of the viscera disclosed the presence in the stomach of one of these host animals of several specimens of *Physocephalus sexalatus*, a spirurid nematode of common occurrence in swine in this country, and one specimen of another spirurid of the genus *Parabronema*, described in this paper; another specimen of *Parabronema* was found in the lumen of the esophagus of the same animal. The small intestine of this host animal also contained a cestode, identified by the junior author as *Moniezia benedeni*, and reported by him elsewhere.¹ The stomachs of the remaining two animals were free from parasites. In the small intestines of these two peccaries there were found a number of trichostrongyles, which are considered as representing a new genus and new species. No other parasites were found in any of the other visceral organs examined, including the lungs, liver, and kidneys.

PAROSTERTAGIA, new genus

Generic diagnosis.—Trichostrongylinae: Head less than 25μ in diameter, with three distinct lips surrounding the mouth, and with six circumoral papillae, four of which are submedian and two lateral (amphids) in position (fig. 1, *a*). Cervical papillae were not seen. Cuticle of head not inflated. The ventro-ventral and latero-ventral rays of the bursa are widely separated, the tips of the former being in relation with a conspicuous prominence of the margin of the bursa.

¹ Journ. Parasit., vol. 9, no. 9, Sept. 1932.

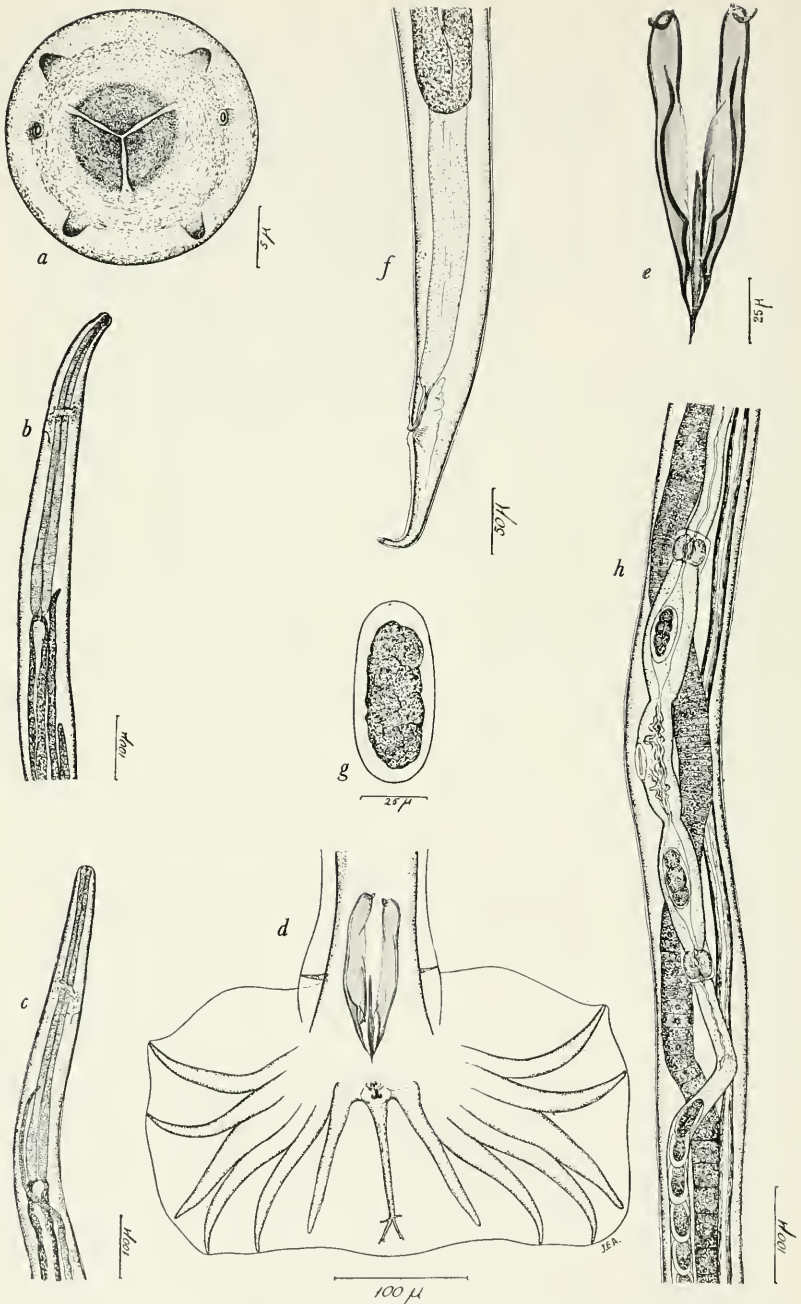


FIGURE 1.—*Parostertagia heterospiculum*, new species: a, Top view of head; b, anterior portion of body (male); c, anterior portion of body (female); d, spread-out bursa of male; e, ventral view of spicules; f, posterior portion of female; g, uterine egg; h, female in region of vulva

The tips of the externo-lateral, medio-lateral, and postero-lateral rays are in relation with the posterior border of the bursa. The externo-dorsals are given off from the dorsal ray; the latter divides distally into two branches, each of which is forked terminally; the dorsal ray gives off a slender horizontal branch on each side at about the level where it forks. An accessory bursal membrane, supported by two slender diverging rays, is present. Spicules with inner processes, the terminal portion of each spicule being acutely pointed. Gubernaculum is long and slender; prebursal papillae present. Vulva naked, located about one-fifth of the length of the body from the posterior end. Ovejectors well developed. Eggs oval, thin-shelled.

While *Parostertagia* is closely related to *Ostertagia*, it differs from the latter in two respects: (1) The relation of the ventro-ventral and latero-ventral rays to each other and (2) the character of the

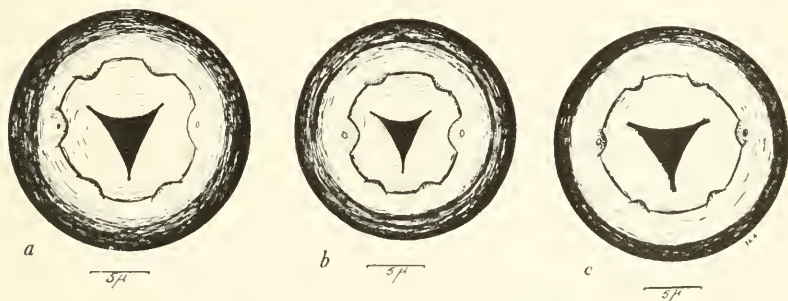


FIGURE 2. Top views of heads of *Ostertagia*: a, *O. ostertagi*; b, *O. marshalli*; c, *O. circumcincta*

terminal portion of the main body of each spicule. In *Ostertagia* the ventro-ventral and latero-ventral rays are close together and parallel, their tips being in relation with a more or less conspicuous indentation of the margin of the bursa. In the genus *Parostertagia* the ventro-ventral and latero-ventral rays are widely separated, the tip of the former ray being in relation with a rather conspicuous protuberance of the margin of the bursa. In this genus, also, the tips of the main body of the spicules are pointed and are not embedded in rounded cuticular cushions, whereas in *Ostertagia* the corresponding portions of the spicules are truncated and are embedded in a terminal blunt cuticular cushion. Also, *Parostertagia* has three well-defined lips, which appear but feebly developed in three species of *Ostertagia* examined by the writers, as noted elsewhere in this paper.

PAROSTERTAGIA HETEROSPICULUM, new species

Specific diagnosis.—*Parostertagia*: Characters of genus. The head is provided with four relatively large submedian papillae and two smaller lateral papillae, or amphids. The mouth is surrounded by

three distinct lips. In species of the genus *Ostertagia*, examined by the writers, the lips are indistinct, as shown in Figure 2, which represents *en face* views of the heads of *Ostertagia ostertagi*, *O. marshalli*, and *O. circumcincta*.

Male, 4.4 mm to 5.5 mm long by 80μ to 85μ in maximum width. The head is about 16μ in diameter. The esophagus is club-shaped, about 452μ to 490μ long. The nerve ring divides the esophagus into two parts, that anterior to it being approximately one-half as long as that posterior to it. The excretory pore is about 205μ to 235μ from the anterior extremity of the body (fig. 1, *b*). The bursa is about 365μ wide when spread out. The ventro-ventral and latero-ventral rays are of approximately equal diameter and widely separated; both rays reach the margin of the bursa, the former being in relation with a conspicuous prominence of the margin of the bursa. The tip of the externo-lateral ray does not extend to the margin of the bursa; the tips of the medio-lateral and postero-lateral rays are in contact with the margin of the bursa. The externo-dorsals arise from the dorsal. The latter divides distally and gives off a slender lateral branch on each side, immediately in front of the two terminal branches; the latter are forked at their posterior extremities. The accessory bursa is supported by two slender rays (fig. 1, *d*). The spicules are slightly dissimilar in length and are also morphologically distinct; the right spicule is 112μ to 121μ long and is provided with a single very slender inner process; the left spicule is 117μ to 125μ long and contains two inner processes, a large one originating at a point anterior to the middle of the spicule and a very small slender one corresponding to that of the right spicule (fig. 1, *e*). The gubernaculum is 62μ to 72μ long by 7μ in maximum width (fig. 1, *e*).

Female, 4.6 mm to 5.8 mm long by 83μ to 109μ in maximum width. The head is about 20μ in diameter. The esophagus is 468μ to 510μ long. The excretory pore is 195μ to 240μ and the nerve ring 144μ to 180μ from the cephalic extremity (fig. 1, *c*). The vulva is approximately 1 mm to 1.2 mm from the posterior extremity of the body. The entire ovejector apparatus, including the sphincters, is somewhat less than 500μ long (fig. 1, *h*). The anus is located at a distance of 90μ to 115μ from the posterior extremity. The terminal portion of the tail is bent ventral, the tip being bluntly rounded (fig. 1, *f*). The eggs are 60μ to 72μ long by 24μ to 26μ wide (fig. 1, *g*).

Host.—*Pecari angulatus angulatus* (Cope).

Location.—Small intestine.

Locality.—Vicinity of Raymondville, Tex.

Type specimens (male and female).—U.S.N.M. Helm. Coll. No. 30165.

Paratypes.—U.S.N.M. Helm. Coll. No. 30166.

In Table 1 are given data showing certain size relationships in both sexes of *Parostertagia heterospiculum*.

TABLE 1.—Size relationships of male and female specimens of *Parostertagia heterospiculum*

MEASUREMENT	MALES					FEMALES				
	1	2	3	4	5	1	2	3	4	5
	μ	μ	μ	μ	μ	μ	μ	μ	μ	μ
Length.....	4,400	4,500	4,700	4,500	5,500	5,800	4,600	5,400	5,000	5,500
Maximum width.....	85	80	85	85	85	109	85	98	83	91
Length of esophagus.....	483	490	452	452	483	483	468	510	468	510
Nerve ring from anterior extremity.....	160	169	167	167	167	180	159	152	144	152
Excretory pore from anterior extremity.....	205	235	228	228	205	240	195	195	195	220
Length of spicules:										
Right.....	114	112	116	121	114					
Left.....	125	121	121	125	117					
Length of gubernaculum.....	68	62	68	72	68					
Vulva from posterior end.....						1,119	1,015	1,222	1,036	1,155
Length of ovejector apparatus.....						436	436	483	421	421
Length of tail.....						90	95	115	110	110

Genus PARABRONEMA Baylis, 1921

PARABRONEMA species

The two female specimens of *Parabronema* (U.S.N.M. Helm. Coll. No. 30164), collected from the esophagus and stomach of a peccary, showed the size relationships presented in Table 2.

TABLE 2.—Size relationships of two female specimens of *Parabronema sp.*

MEASUREMENT	SPECIMEN 1	SPECIMEN 2
	μ	μ
Length.....	19,000	20,000
Maximum width.....	171	156
Length of cordons.....	19	19
Distance between anterior extremity and posterior margin of cordons.....	53	53
Length of anterior portion of esophagus.....	159	114
Length of posterior portion of esophagus.....	1,700	1,555
Distance between anterior extremity and—		
Excretory pore.....	281	243
Cervical papillae ¹	254	
Vulva.....	245	
Length of tail.....	4,137	3,853
	152	136

¹The cervical papillae are asymmetrical in position.

The morphological details of this species of *Parabronema* are shown in Figures 3 and 4, which illustrate the anterior portion of the body, the region of the vulva, and posterior portion of the body. None of

the morphological features shown by these two female specimens appears to the writers to possess specific value.

In the absence of male specimens it is impossible to determine with certainty whether the female specimens of *Parabronema* referred to above represent a new species. However, considering the host from which these specimens were collected and the locality in which this host occurs, we can safely predict that when corresponding male spec-

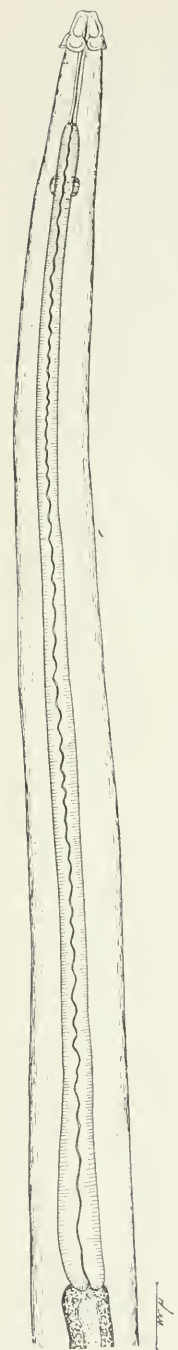


FIGURE 3.—*Parabronema* sp.: Anterior portion of female

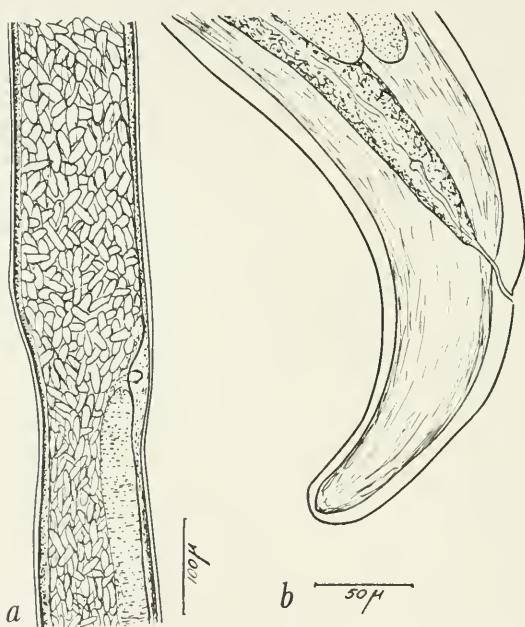


FIGURE 4.—*Parabronema* sp.: a, Region of vulva; b, posterior portion of female

imens are discovered they will be found to represent a species distinct from any which have been described up to the present time as belonging to the genus *Parabronema*. *P. indicum* Baylis, 1921, and *P. smithi* (Cobbold, 1882) are from the Indian elephant, while *P. africanum* Baylis, 1921, and *P. rhinocerotis* Khalil, 1927, described on the basis of a female specimen, are from the rhinoceros. *P. skrjabini* Rasowskaia, 1924, is described from horned cattle and sheep in Turkestan. The present record is, therefore, the first one concerning the occurrence of this genus in North America.